Case 3527

Anguis jamaicensis Shaw, 1802 (currently *Typhlops jamaicensis*; Reptilia, Serpentes): proposed conservation of the specific name by ruling that it is not to be treated as a replacement name for *A. lumbricalis* Linnaeus, 1758 (currently *T. lumbricalis*) and the designation of neotypes for both taxa

Michel Domínguez

Centro Iberoamericano de la Biodiversidad (CIBIO), Universidad de Alicante, Edificio de Ciencias III, Campus San Vicente del Raspeig, 03080, Alicante, Spain (e-mail: micheldd@hotmail.es)

Raúl E. Díaz, Jr.

University of Kansas Medical Center, Kansas City, KS 66160, U.S.A.

Abstract. The purpose of this application, under Article 78.1 of the Code, is to conserve the usage of the specific names *Anguis lumbricalis* Linnaeus, 1758 and *Anguis jamaicensis* Shaw, 1802 for two species of blind snake from the Caribbean. As published both taxa were composite and the name *A. jamaicensis* was a replacement for *A. lumbricalis*. The name *Typhlops lumbricalis* has consistently been used for a species from Cuba, Isla de Juventud and Bahamas, and *T. jamaicensis* is used for a species from Jamaica. A neotype is designated for *T. lumbricalis* and it is proposed that a neotype be designated for *T. jamaicensis* in accord with accustomed usage. *Typhlops lumbricalis* is the type species of *Typhlops* Oppel, 1811, a genus with a distribution in Europe, Africa, Asia, Central and South America and some 140 species.

Keywords. Nomenclature; taxonomy; Reptilia; Serpentes; TYPHLOPIDAE; *Typhlops lumbricalis*; *Typhlops jamaicensis*; blind snakes; West Indies; Bahamas; Cuba; Jamaica.

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1. Linnaeus (1758, p. 228) briefly described the blind snake *Anguis lumbricalis*: [middorsal scale count] '230–7, Color ex albido flavescens' and stated that it occurred in America. Linnaeus did not mention this species in either of his accounts of specimens in the Swedish King Adolf Fredrik's cabinet (1754 and 1764) and there are no specimens either in the King's collection in the Naturhistoriska Riksmuseet in Stockholm or the Evolutionsmuseet, University of Uppsala. Furthermore, there are no specimens of this species among Linnaeus's own material in Uppsala or in the Linnean Society's collection in London.

2. Linnaeus (1758) cited three earlier references: Seba (1734, p. 137, pl. 86, fig. 2), Browne (1756, p. 460, pl. 44, fig. 1), and Gronovius (1756, p. 52, no. 3). Under Article 72.4.1 of the Code, these references form an integral part of Linnaeus's description of *Anguis lumbricalis* and all the material on which the descriptions and/or illustrations

of the other authors were based is syntypic, whether or not it was examined by Linnaeus and whether or not it still exists. Linnaeus's own description, those of the earlier authors cited by him and their specimens are all of equal status and together they constitute the basis on which the name is made available.

3. Seba (1734, p. 137, no. 2, pl. 86, fig. 2) described his taxon as 'cinereo luteus' and provided an illustration; he did not, however, give scale counts or length measurements. His text was published in both Latin and Dutch and Latin and French. The Latin and Dutch versions record the species as 'Caecilia, ex Mauritania' and 'Cecilia, a blinde slang van Mauretanië', respectively. In the French version, however, the species was recorded as 'Aveugle de la Nigritié'. The 'Nigritié' is a region that currently includes several West and Central African countries. In accordance with the distribution given by Seba and his illustration, his species could be a member of either the TYPHLOPIDAE or the LEPTOTYPHLOPIDAE. A correct identification is very difficult because the scalation pattern is not clear and there are no known specimens attributable to Seba.

4. Browne (1756, p. 460, pl. 44, fig. 1) described a blind snake 'Amphisbaena subargentea' (silver snake) from Jamaica. He noted 'This reptile seldom exceeds sixteen inches in length, and grows gradually thicker from the snout to the end of the tail; but the anus is placed so near this part both in this and some others of the same kind, that it has been frequently mistaken for the mouth, which has given rise to the name *Amphisbaena*, by which all the species are now commonly known'. In Browne's illustration, the head scalation pattern is more detailed and his species is clearly that later called *Anguis jamaicensis* by Shaw (1802). Browne's name *Amphisbaena subargentea* became available with the publication of the second edition of his work in 1789; the text is the same as in the first edition but in the index and figures he used binominal nomenclature. Browne's (1789) work was suppressed in Opinion 89 (December 1925) and placed on the Official Index of Rejected and Invalid Works in Zoological Nomenclature in Direction 32 (May 1956). Non-adoption of Browne's names in the 19th century and suppression of his work at an early date are no doubt the reason why his names, including *subargentea*, have not been used by later authors.

5. Gronovius (1756, p. 52, no. 3) described a specimen or specimens in his own collection. He gave the scale count (230 ventral scales and seven caudal scales), coloration ('albido flavescens') and lengths of the animals. The scale count and coloration were those later published by Linnaeus (1758). Unfortunately Gronovius did not illustrate any of the specimens that he had nor did he give their geographical provenance. Gronovius included references to Seba (1734, p. 137, pl. 86, fig. 2) and Browne (1756, p. 460, pl. 44, fig. 1). The Fish Section of the Natural History Museum, London, contains several specimens identified as Linnaean types which were included among Gronovius's dried fish material bought along with his manuscript at auction in London in 1853 (Günther, 1859–1870; Wheeler, 1958). Unfortunately there was no reptile material in that collection (Colin McCarthy, NHM, London, pers. comm., April 2009). McDiarmid, Campbell & Touré (1999, p. 108) incorrectly stated Gronovius's specimen to be the 'holotype' of *Anguis lumbricalis*.

6. Linnaeus's (1758) name *Anguis lumbricalis* has been used consistently for a species of blind snake found in Cuba, Isla de Juventud, and Bahamas but the taxon was composite when published. Thomas (1989) restricted the 'type locality' to New

Providence Island in the Bahamas. In the absence of evidence that any of Seba's (1734), Browne's (1756), or Gronovius's (1756) material came from there, and the absence of a neotype designated from there, this action was invalid. There is no extant syntype and we therefore designate a neotype. This is specimen KU 273756 (its sex was not identified) collected from 4 miles N and 0.5 miles E of Rock Sound (76°11'02"N, 24°58'02"W, 20 m elevation, datum WGS 84), Eleuthera Island, Bahama Islands, on 7 October 1965 by Richard Thomas and housed at the University of Kansas Natural History Museum & Biodiversity Research Center, Lawrence, Kansas, U.S.A. Of small size, measuring 119 mm snout-vent length (SVL), 4 mm tail length (TL), 4.4 mm midbody diameter (MBD). No distinct neck/cervical region when viewed externally. Head is rounded in dorsal view, not dorsoventrally depressed, almost as long as broad (head width maximum/head length (HWM/HL) is 1.02); rounded snout in dorsal and lateral views; rostral in dorsal view like a narrow oval, slightly broader than long, total length of the dorsal rostral/widest part of the dorsal rostral (RWD/RLD) is 0.57, with slightly pointed apex, non-parallel sides and almost reaching interocular level, postnasal pattern weakly divergent. Single, sub-triangular preocular contacting the third supralabial only, two postoculars, two parietals and four supralabials with T-III imbrications pattern (Figs. 1A, 1B); 20 scale rows anteriorly, reducing to 18 scale rows posteriorly at around midbody. Low middorsal scale counts (256), 13 ventrocaudals. Dorsum and venter colorations are dark brown and lighter brown (cream) in alcohol, respectively. Snout and head are pigmented.

7. Shaw (1802, p. 588, pl. 133) described and illustrated the blind snake *Anguis jamaicensis* from Jamaica as a 'silvery-brownish slow-worm, with the body gradually thickening, and the tail abruptly subacuminate' (also described in Latin). He noted, 'The length of this species, according to Brown [sic], in his History of Jamaica, seldom exceeds sixteen inches, and the diameter of the animal gradually increases from the snout to the tail, which is extremely short, and terminates in a slightly pointed extremity: it is found about the roots of decayed trees, near ants' nests, etc. and though popularly considered as poisonous, is entirely innocuous; its colour is a uniform pale brown, with a kind of silvery gloss on the scales, which are extremely smooth, resembling in some degree those of the scink [sic]'. Shaw cited three references: Amphisbaena subargentea. Silver snake. Brown[e], Jam[aica], p. 460, pl. 44, fig. 1. Serpens Caecilia ex Mauritania Seba, 1, pl. 87, fig. 2 [recte pl. 86, fig. 2]. *Anguis lumbricalis*? Lin[naeus] Syst[ema] Nat[urae], p. 391. (This is the page reference in Edition 12, 1766). Shaw's text is very similar to Browne's description and, although the head scales are more visible in Shaw's illustration than in Seba's, the two figures are very similar.

8. In the second edition of his work (para. 4 above), Browne (1789) used several question marks when he employed binominal nomenclature in the index and on figures, and Shaw (1802) gave new names to those of Browne's names with question marks. Browne (1789) gave the name '*Anguis lumbricalis*? ' to pl. 44, fig. 1, and listed '*Anguis lumbricoides*??' (sic) in Index 4, p. xlvi, suggesting that his own species *subargentea* could possibly be synonymous with *A. lumbricalis* Linnaeus. In copying Browne's description of the blind snake, Shaw (1802) also incorporated Browne's question mark. Shaw cited Linnaeus (1766) and most of Linnaeus's citations in his work, although he was often inconsistent and inaccurate in his use of references and

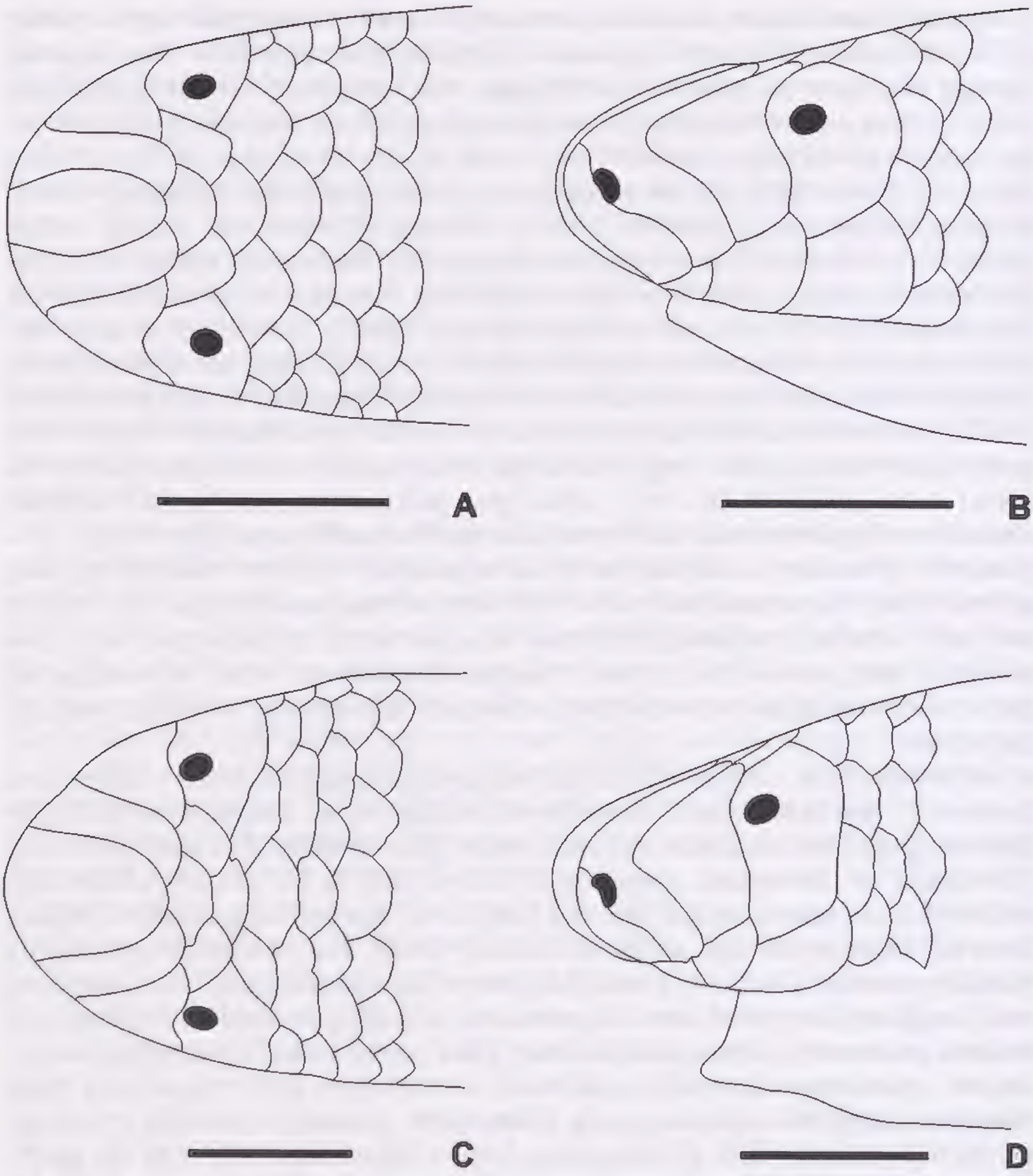

Fig. 1. Dorsal and lateral views of the head scutellation (scale bar = 2 mm) in: **A, B**. *Typhlops lumbricalis* (KU 273756, neotype); **C, D**. *Typhlops jamaicensis* (KU 269908, specimen proposed as neotype).

usually omitted citations of Gronovius that had been included by Linnaeus (Shaw may not have had easy access to a copy of Gronovius's work). Shaw's (1802) new nominal species was based on two of the references cited by Linnaeus (viz. Seba, 1734; Browne, 1756) and the name *jamaicensis* could be considered a replacement name for *lumbricalis*. The name *jamaicensis* is the only one of the 17 replacement names proposed by Shaw (see Smith & David, 1999) still in current use.

9. The herpetological community (for example, Gundlach, 1880; Boulenger, 1893; Barbour, 1901; 1914; Barbour & Ramsden, 1919) accepted the nomenclatural status of *A. jamaicensis* as discussed by Duméril & Bibron (1844, pp. 287–290). They later

summarised the name *lumbricalis* and included two synonyms for it, *subargentea* and *jamaicensis*. They also noted that Shaw's description and illustration were copies of Browne's description and Seba's illustration, respectively. Nevertheless, Cochran (1924) erroneously resurrected *jamaicensis*. She found that populations of the blind snake in Jamaica and Puerto Rico associated with the name *T. lumbricalis* differ in scutellation, pattern, and other characters from *T. lumbricalis* populations of the Bahamas, Cuba, and Hispaniola, meriting distinct species recognition. Cochran stated that Shaw's description was based on the accounts of Browne and Seba, since Shaw himself questioned the reference to *A. lumbricalis*. She added that Linnaeus's name was based on Gronovius's description and, since Gronovius's material had a low middorsal scale count, it was justifiable to apply the name *lumbricalis* only to blind snakes with 20 scale rows anteriorly and low middorsal scale row counts, which encompasses specimens from the Bahamas, Cuba and Hispaniola; thus *Typhlops* populations found in Puerto Rico and Jamaica must be called *T. jamaicensis.* However, in the absence of a lectotype or neotype designated for *lumbricalis* from the Bahamas, Cuba or Hispaniola, this statement was incorrect.

10. The names have been used consistently for two distinct species, *Typhlops lumbricalis* from Cuba, Isla de Juventud, and the Bahamas with 237–329 middorsal scales, and *T. jamaicensis* from Jamaica with 379–448 middorsal scales (see, for example, Thomas, 1976; 1989; Dixon & Hendricks, 1979; Garrido & Jaume, 1984; Schwartz & Henderson, 1988; 1991; Wallach, 1998; Powell et al., 1996; Crombie, 1999; Estrada & Ruibal, 1999; McDiarmid, Campbell & Touré, 1999; Domínguez & Moreno, 2003). Recently *T. lumbricalis* has been redescribed by Domínguez & Díaz (2011) as having 256–271 middorsal scales and being restricted to the Bahamas. A ruling is needed to separate the two names so that they can continue to be used for these two species, maintaining stability in the nomenclature. Currently there is no specimen of *T. jamaicensis* suitable for lectotype designation and we propose that a neotype be designated. This is specimen KU 269908 collected from St. James, 1 mile South of Reading (18°23'32"N, 77°51'35"W, 493 m elevation, datum WGS 84), Jamaica, on 25 July 1961 by Albert Schwartz (AS 15296). It is an adult male, medium sized, 262 mm SVL, 8 mm TL, 8.0 mm MBD. Lacks distinct cervical region. Head is slightly ogival in dorsal view, not dorsoventrally depressed, slightly broader than long, HWM/HL is 1.08; rounded in lateral view; broad rostral in dorsal view, almost broad as long, 0.81 RWD/RLD, curved–sided, slightly umbo, not flared on anterior apex, nearly parallel–sided midrostrally, with rounded posterior apex and not reaching interocular level, postnasal pattern strongly divergent; single subtriangular preocular contacting with third supralabial only, two postoculars, two parietals and four supralabials with T-III imbrication pattern (Figs. 1C, 1D); 22 scale rows anteriorly, without reduction posteriorly, high middorsal scale counts (398), 10 ventrocaudals. Dorsum and venter colorations are dark brown and lighter brown (cream) in alcohol, respectively. Snout and head are pigmented.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to rule that the specific name *jamaicensis* Shaw, 1802, as published in the binomen *Anguis jamaicensis*, is to be treated as the specific name of a newly proposed nominal species and not as a replacement name for *Anguis lumbricalis* Linnaeus, 1758;

(2) to designate specimen KU 269908 at the University of Kansas Natural History Museum & Biodiversity Research Center, Lawrence, KS, U.S.A., as the neotype of *Anguis jamaicensis* Shaw, 1802;
(3) to place on the Official List of Specific Names in Zoology the name *jamaicensis* Shaw, 1802, as published in the binomen *Anguis jamaicensis* and as defined by the neotype designated in (2) above.

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